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# CURRENT LITERATURE

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## BOOK REVIEWS

### **Plant and animal breeding for secondary schools**

There has been a growing demand in recent years that the secondary schools, especially those located in rural districts, shall give courses in agriculture, domestic economy, and other subjects bearing a practical relation to the life of the people in whose midst the schools are located. In several states these subjects are now a part of the prescribed course. Such requirements make demands for properly trained teachers and for suitable text-books. A well-conceived and charmingly written manual of plant and animal breeding has been prepared by Professor EUGENE DAVENPORT<sup>1</sup> to partially meet this growing need.

In some respects this work is essentially an abridgment of the same author's earlier work on *Principles of breeding*, but less attention is given to philosophical discussions and more to facts regarding the origin and history of the various domesticated races. Several early chapters describe the manner in which plants and animals came to be domesticated, and point out the need of their further improvement. A chapter on the "ways of the wild" gives a very readable discussion of natural selection and the survival of the fittest, thus giving a basis for a proper appreciation of the relation between artificial selection and the natural evolutionary processes. The principles which are involved in the improvement of plants and animals are then discussed at some length, chief attention being given to GALTON'S *Law of ancestral heredity* and the correlation table.

MENDEL'S laws are given very inadequate treatment. The author evidently has hazy conceptions of unit characters, dominance and recessiveness, latency, atavism, mutation, etc., and his discussions involving these subjects lack the definiteness and accuracy which characterize the rest of the book. He repeatedly emphasizes the statement that each individual possesses all the characteristics of all its ancestors, a statement directly opposed to all Mendelian experience. This lack of precision in the treatment of the principles of Mendelian heredity constitutes the most fundamental defect of the book. It is not only too plainly apparent in the discussions, but is also seen in a number of erroneous definitions in the glossary, as the following examples plainly show: "Gamete, the fertilized ovum"; "Mutant, an individual or

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<sup>1</sup> DAVENPORT, E., Domesticated animals and plants. A brief treatise upon the origin and development of domesticated races, with special reference to the methods of improvement. pp. xiv+321. *figs.* 49 and frontispiece. Boston: Ginn & Co. 1910.

strain essentially new and produced spontaneously by nature through crossing, bud variation, or otherwise, synonymous with the older term 'sport'"; "Zygote, that portion of the gamete which determines a unit character." It seems unfortunate that a book otherwise so admirable should propagate such definitions as these. However, the defect in regard to Mendelian heredity is mainly a "sin of omission," and the prepared teacher can easily fill in the vacancy, especially with the aid of PUNNETT'S *Mendelism*. DAVENPORT'S book can not fail to interest, instruct, and inspire, and is deserving of a wide distribution.—GEO. H. SHULL.

### Popular manuals

The scientific men and women of England have always been interested in interpreting the result of science to the intelligent public not trained in science. Even their scientific papers are apt to be more popular in form than are those prepared in the United States. We cannot but feel that science in America has suffered very much from lack of proper interpretation. Those who are willing to write on scientific subjects for popular reading are usually unfit for the task; and those who are fit, are unwilling. The projected *Cambridge Manuals of Science and Literature* furnish a notable illustration of the continuous effort in England to interest the public in scientific matters. They are not intended primarily "for school use or for young beginners," but also for educated readers who want brief and simple, and at the same time authoritative statements of recent discoveries. The five volumes now issued, dealing with science, will indicate the subjects treated and the kind of authors preparing them.

*The coming of evolution*, the story of a great revolution in science, by JOHN W. JUDD (171 pp.); *Heredity*, in the light of recent research, by L. DONCASTER (140 pp.); *Plant-animals*, a study in symbiosis, by FREDERICK KEEBLE (163 pp.); *The natural history of coal*, by E. A. NEWELL ARBER (163 pp.); *Plant life on land*, considered in some of its biological aspects, by F. C. BOWER (172 pp.).

To issue such a series, at one shilling a volume, is to place this material in the hands of a very wide range of readers, and must react favorably upon the general interest in science.

Another series, having the same purpose, is called *Home University Library*, ten volumes of which have now appeared. It is an English series (Williams and Norgate), as one might expect, published in this country by Henry Holt and Company. The books are larger than the Cambridge Manuals (uniformly 256 pp.), selling for 75 cents, and are more pretentious in contents, suited doubtless to a somewhat better trained group of readers. Four of the volumes are of interest to botanists, as follows: *Modern geography*, by MARION I. NEWBIGIN; *Polar exploration*, by W. S. BRUCE; *The evolution of plants*, by D. H. SCOTT; *Evolution*, by PATRICK GEDDES and J. ARTHUR THOMSON.